

INVESTIGATION OF TOM-CAST, STAKING, AND MULCH FOR MANAGING TOMATO DISEASES

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ABSTRACT

The objective of one experiment conducted in 1998 was to compare two versions of TOM-CAST, a weather-based disease forecasting system, to a weekly spray program for managing early blight in fresh-market tomatoes. Bravo Ultrex alone or in alternation with Quadris were used. All three spray programs were started on 14 July after 37 disease severity values (DSVs) had accumulated from transplanting, which was 5 weeks before the first harvest. Timing of subsequent sprays was as follows: for TOM-CAST 15 DSV, fungicide was applied after 15 DSVs had accumulated *or* after 2 wks *or* if rain was forecast and either of these conditions were almost met; for TOM-CAST 25 DSV, fungicide was applied after 25 DSVs had accumulated *or* after 3 wks when early blight symptoms had not been seen *or* after 2 wks when disease was present *or* if rain was forecast and any of the previous conditions were almost met. Powdery mildew became quite severe in nontreated plots and was more important than early blight in the fungicide-treated plots. All three fungicide programs with Bravo alone controlled powdery mildew well on the upper surface of leaves but only moderately on lower leaf surfaces. An alternation of Bravo and Quadris applied according to TOM-CAST 15 DSV provided the greatest yield and excellent control of powdery mildew on both leaf surfaces. Total number and weight of fruit, number and weight of extra large fruit (> 3.5 in. diameter) harvested from 21 Sep – 13 Oct, and number and weight of green fruit at last harvest (13 Oct) were significantly greater than all other treatments. TOM-CAST 15 DSV, with 9 sprays, was as effective as the weekly spray program, with 11 sprays, for controlling both diseases. Early blight was most severe with TOM-CAST 25 DSV (6 sprays), but differences were not significant.

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